

METHODS AND APPARATUS FOR PRE-FILTERING A SIGNAL TO INCREASE
SIGNAL-TO-NOISE RATIO AND DECORRELATE NOISE

ABSTRACT OF THE DISCLOSURE

To receive a signal from a multiple-input-multiple-output (MIMO) communication channel, initial channel taps are generated based on an impulse response estimate of the MIMO communication channel. The received signal is pre-filtered using the initial channel taps to generate output channel taps and a corresponding output signal having an increased signal-to-noise ratio (SNR) and uncorrelated noise. The SNR is based on a ratio of the energy in a first subset of the output channel taps to the energy in a second subset of the output channel taps.